

Data Analyst Job Trends

A Skills, Location, and Company Focus

Insights from Recent Job Postings (2022–2024)

Team 7 – Project

Dataset:

`hultaibigdata.jobs_data_analyst.postings`

Tools used: BigQuery, Python, Vanna.AI

Overview

- 1. Objective – Why we conducted this analysis**
- 2. Dataset & Methodology – Tools and techniques used**
- 3. Key Findings**
 - In-demand skills
 - Location hotspots
 - Top hiring companies
- 4. Actionable Insights**
 - For job seekers
 - For employers
- 5. Ethical Considerations in AI-powered Hiring**
- 6. Q&A**

Data Landscape: hultaibigdata.jobs_data_analyst.postings

4,756

job postings analyzed from Nov 1, 2022 to May 1, 2024

Key fields examined:

Skills & Technologies

Company Information

Location Data

Job Title & Description

Data Stats To Know

87

avg job post daily

Upwork

most popular company

Data Analyst

most job post

47.12%

work from home
location

Methodology

 SQL Queries in BigQuery

Data extraction & aggregation

 Python in Google Colab

Establish LLM powered analytics tools

 LLM Prompts with Vanna.AI

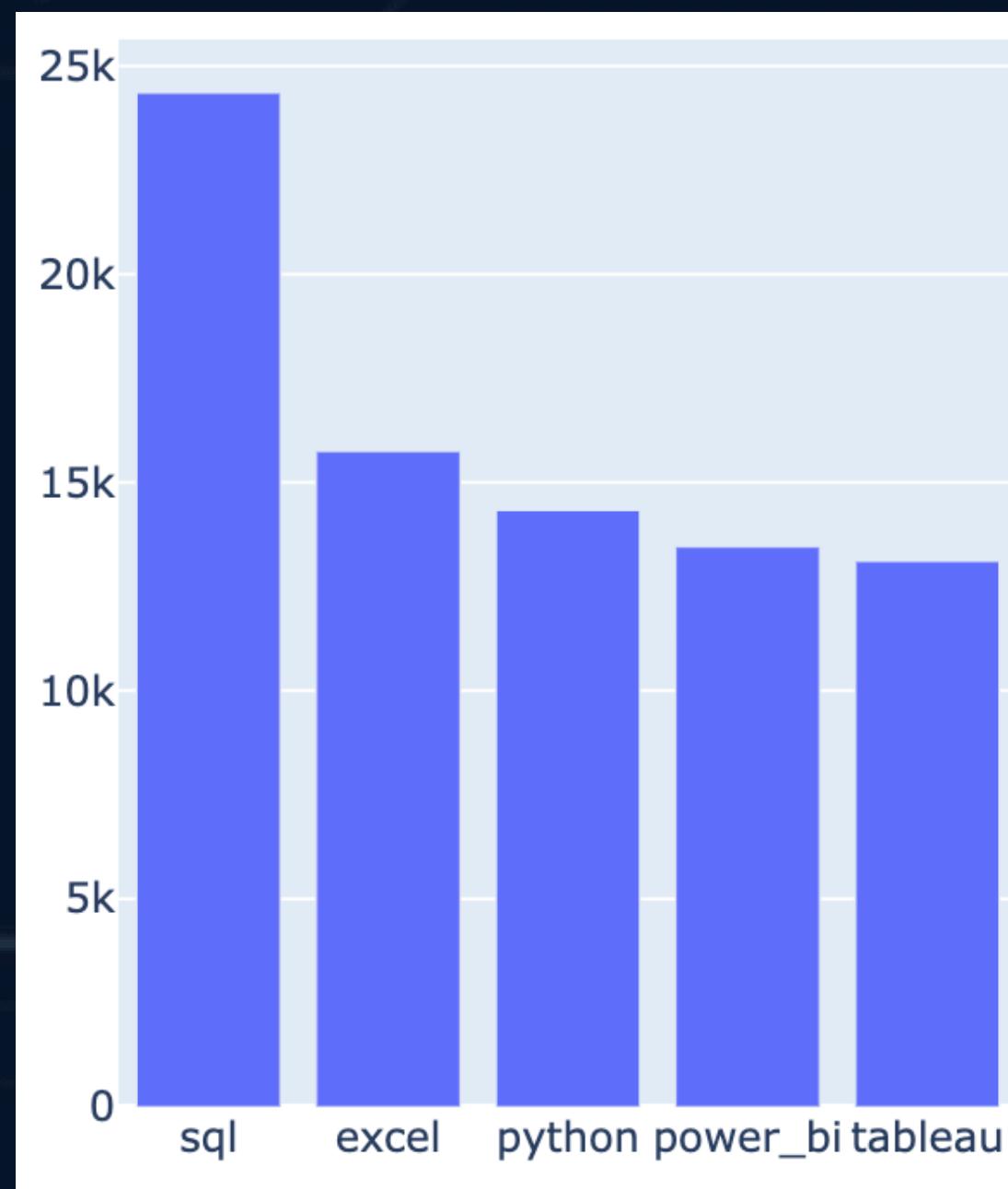
AI-assisted exploration & insights

 Our approach emphasizes reproducibility and insight generation through AI-assisted exploration.

Objective

To uncover key skills, locations, and hiring trends in the data analyst job market (2022–2024), and provide actionable insights for job seekers and employers.

Top Skills That Open Doors



i Based on analysis of 4,756 job postings from 2022-2024



SQL (frequency - 24,353)

Essential for data querying and database management. The most requested skill across all job postings.



Excel (frequency - 15,748)

Fundamental tool for data organization, analysis, and reporting.



Python (frequency - 14,330)

Versatile programming language for data analysis, visualization, and automation.



Tableau (frequency - 13,452)

Data visualization tools for creating interactive dashboards and reports.



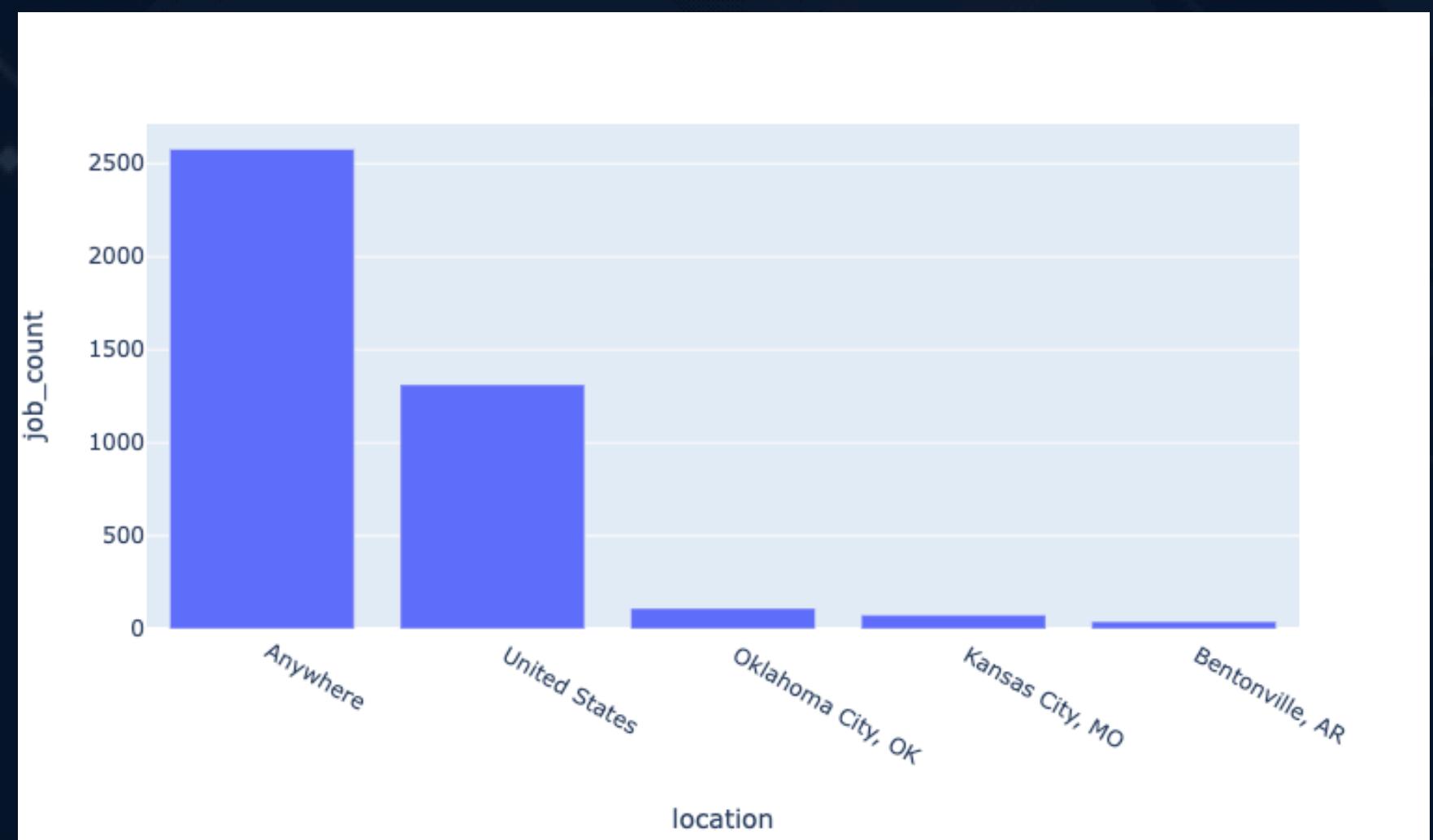
Power BI (frequency - 13,108)

Data visualization tools for creating interactive dashboards and reports.

Location Hotspots



Data analyst job market in 2024 is shifting toward more remote and flexible work options, moving beyond traditional tech cities. Employers are hiring from a wider geographic area, creating new regional hubs and a more spread-out, national job market where candidates compete across the whole country instead of just in big cities.



Anywhere 2577

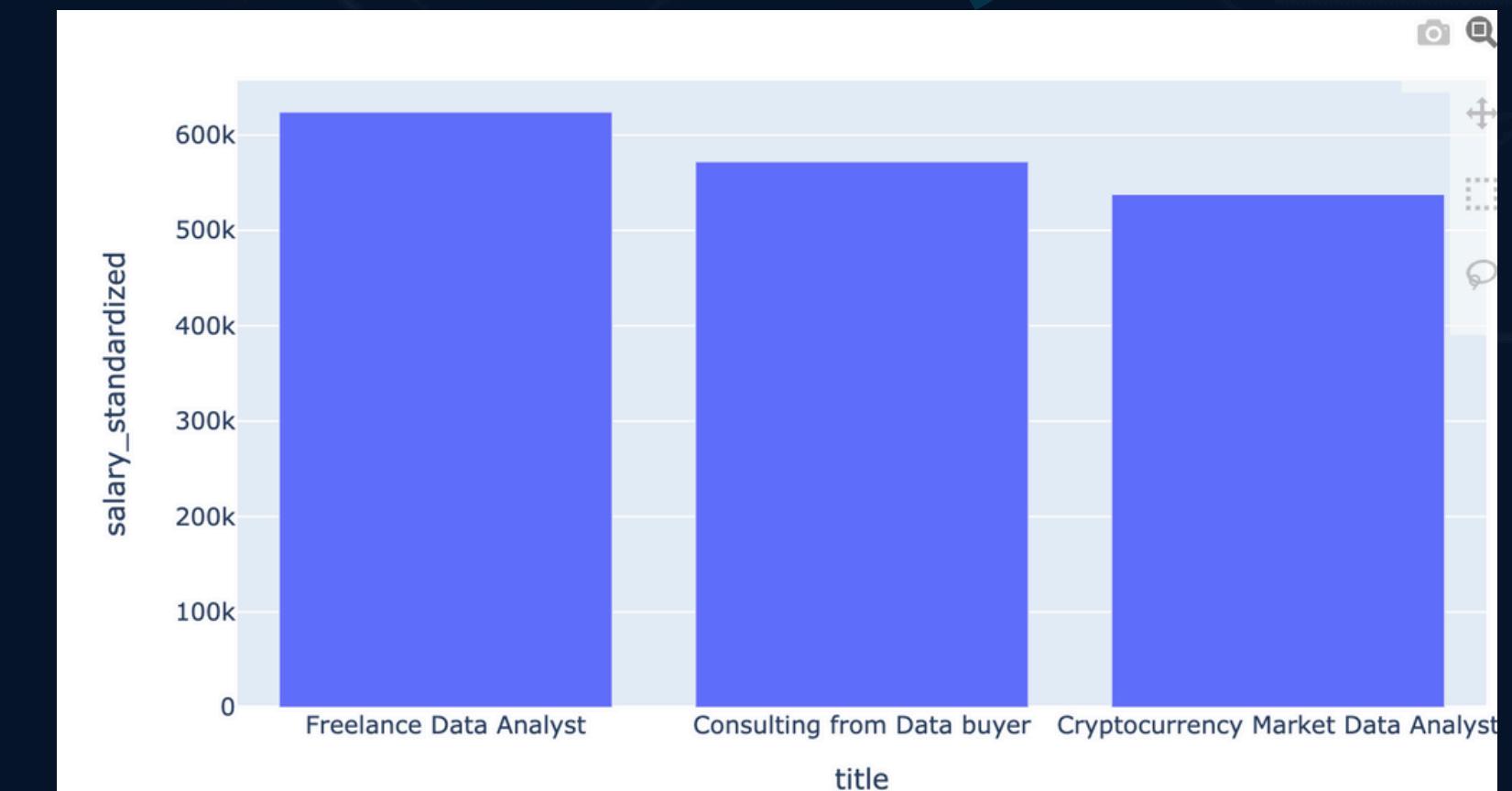
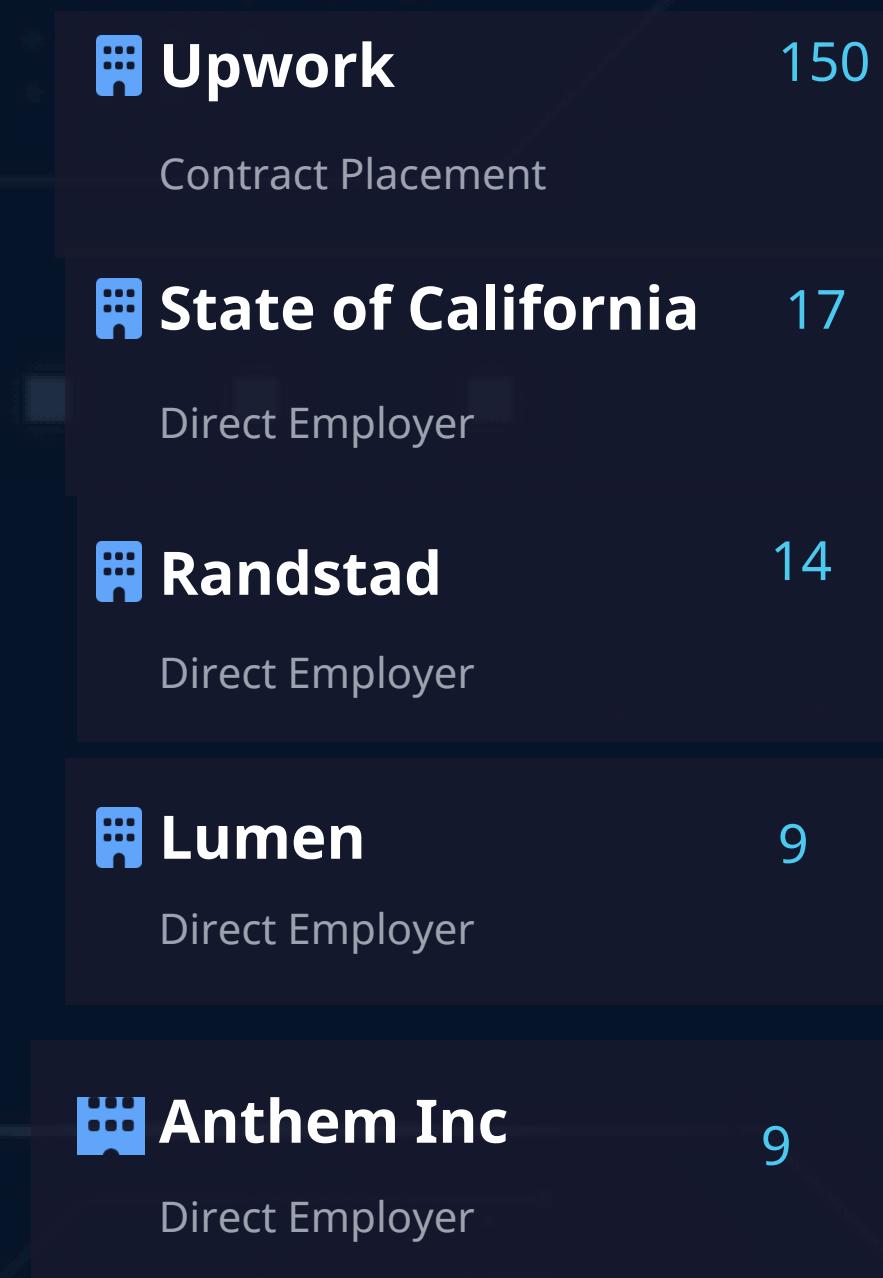
United States 1,370

Oklahoma City, OK 110

Kansas City, MO 74

Bentonville, AR 39

Top 5 Data Analyst Hires Posts?



There is a high number of job opening for free lance data analysts. The highest paying free lance jobs are consulting for Data buyers and Cryptocurrency market Data analyst.

Actionable Insights

For Job Seekers

Master SQL and Python

These are the most requested technical skills across all job postings.

Learn data visualization tools

Tableau and Power BI skills are highly valued for creating insightful dashboards.

Build proficiency with Excel and Microsoft 365

Excel, Outlook, and other Microsoft tools are frequently required in business-focused analyst role

Tailor resumes with skill-based keywords

Optimize for ATS systems by including relevant technical terms.

For Employers

Emphasize skills in job descriptions

Clearly state required and preferred technical competencies.

Offer remote flexibility

Remote work options expand the talent pool and attract more candidates.

Address bias in AI recruiting tools

Ensure automated systems don't filter out qualified candidates.

Invest in upskilling programs

Develop internal talent to meet evolving data analysis needs.

Thank You!

❓ Questions?



👤 Created by Team 7

REFERENCE - Data Landscape

You how many job post are there?

```
SELECT count(*)  
FROM `hultaibigdata.jobs_data_analyst.postings`
```

F0_
47586

CSV [Download](#)

You what is the data period?

```
SELECT MIN(date_time),  
       MAX(date_time)  
FROM `hultaibigdata.jobs_data_analyst.postings`
```

F0_ F1_
2022-11-04T03:40:11.151Z 2024-05-01T03:00:21.729Z

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You How many average job post daily?

```
SELECT AVG(daily_post_count)  
FROM (SELECT DATE(date_time) AS post_date,  
          COUNT(*) AS daily_post_count  
    FROM `hultaibigdata.jobs_data_analyst.postings`  
    GROUP BY post_date  
)
```

F0_
87.7970479705

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You what is the most popular job?

```
SELECT title  
FROM `hultaibigdata.jobs_data_analyst.postings`  
GROUP BY title  
ORDER BY count(*) DESC  
LIMIT 1
```

TITLE
Data Analyst

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You How many percentage of job post are for Work from home?

```
SELECT 100*count(CASE WHEN work_from_home = TRUE THEN 1 ELSE NULL END) / count(*)  
FROM `hultaibigdata.jobs_data_analyst.postings`
```

F0_
47.118900517

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You what is the most popular company?

```
SELECT company_name,  
       COUNT(*)  
  FROM `hultaibigdata.jobs_data_analyst.postings`  
 GROUP BY company_name  
 ORDER BY count(*) DESC  
 LIMIT 1
```

COMPANY_NAME F0_
Upwork 6830

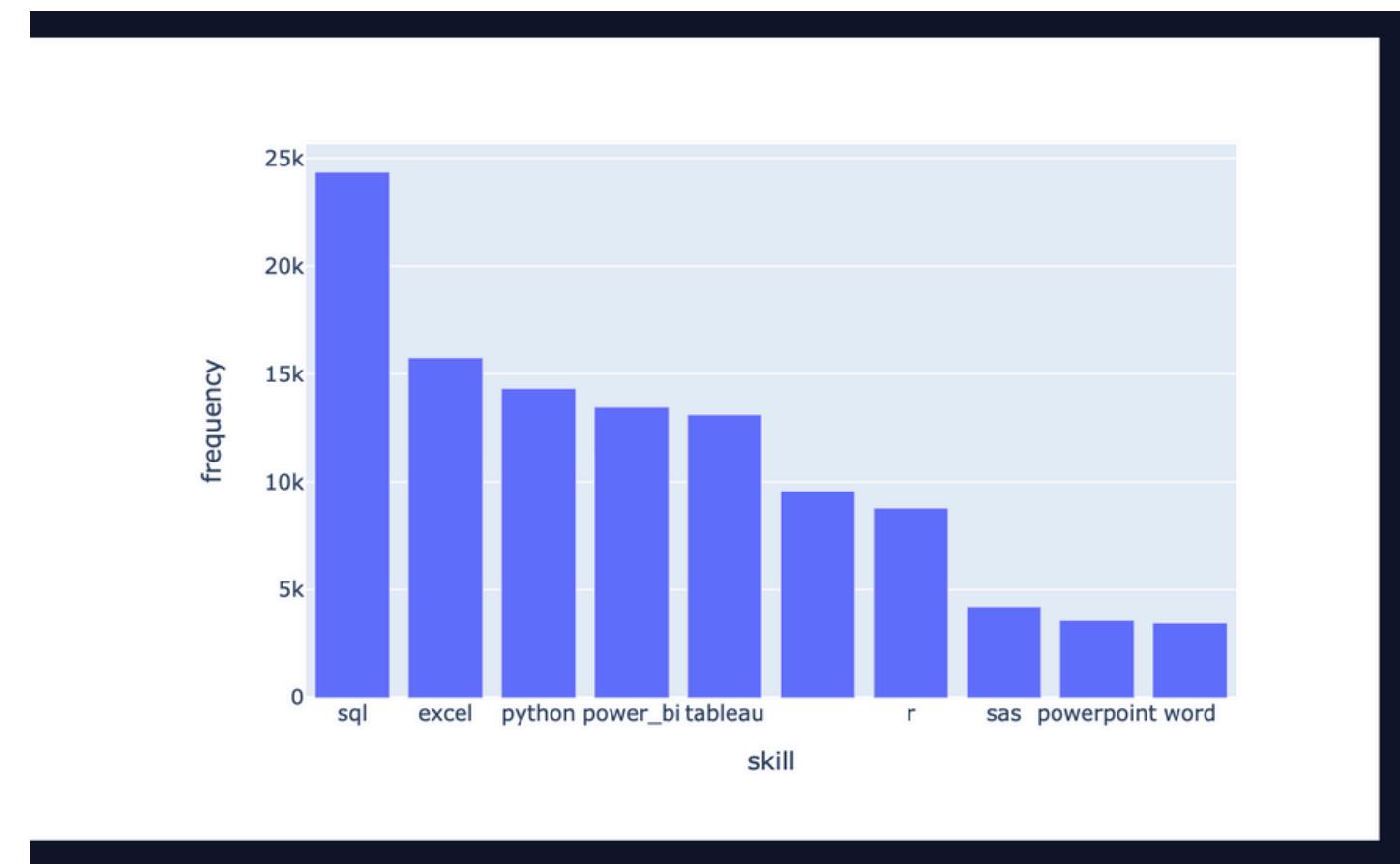
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REFERENCE - Top Skills

You What are the top 10 most commonly mentioned skills?

```
SELECT
  list.element AS skill, COUNT(*) AS frequency
FROM
  `hultaibigdata.jobs_data_analyst.postings`, UNNEST(description_tokens.list) AS list
GROUP BY skill
ORDER BY frequency DESC
LIMIT 10
```

SKILL	FREQUENCY
sql	24353
excel	15748
python	14330
power_bi	13452
	9578
r	8782
sas	4219
powerpoint	3573
word	3460



REFERENCE - Location Hotspots

```
SELECT
    location,
    COUNT(*) AS job_count
FROM
    `hultaibigdata.jobs_data_analyst.postings`
WHERE EXTRACT(YEAR FROM date_time) = 2024
AND title LIKE '%Data Analyst%'
GROUP BY location
ORDER BY job_count DESC
LIMIT 5
```

LOCATION	JOB_COUNT
Anywhere	2577
United States	1312
Oklahoma City, OK	110
Kansas City, MO	74
Bentonville, AR	39

SQL Query & Results

The analysis is based on the following query, which identifies the top 5 locations for "Data Analyst" job postings in 2024.

sql

```
SELECT
    location,
    COUNT(*) AS job_count
FROM
    `hultaibigdata.jobs_data_analyst.postings`
WHERE
    EXTRACT(YEAR FROM date_time) = 2024
    AND title LIKE '%Data Analyst%'
GROUP BY
    location
ORDER BY
    job_count DESC
LIMIT 5
```

REFERENCE - Top 5 Data Analyst Posting

You which companies have the most data analyst posting?

SELECT
company_name,
COUNT(*) AS posting_count
FROM
`hultaibigdata.jobs_data_analyst.postings`
WHERE
title LIKE '%data analyst%'
GROUP BY
company_name
ORDER BY
posting_count DESC

COMPANY_NAME	POSTING_COUNT
Upwork	150
State of California	17
Randstad	14
Lumen	9
Anthem, Inc	9
Montefiore Medical Center	8
Sky I.T. Group (Sky Business Intelligence Team)	7
soona	6
SynergisticIT	5
Skiltrek	5

You What are the title, location, salary, and salary specification for the top 3 highest paying jobs in the entire dataset?

SELECT
title, location, salary_standardized, salary
FROM
`hultaibigdata.jobs_data_analyst.postings`
ORDER BY salary_standardized DESC
LIMIT 3

TITLE	LOCATION	SALARY_STANDARDIZED	SALARY
Freelance Data Analyst	Anywhere	624000	100–500 an hour
Consulting from Data buyer	Anywhere	572000	150–400 an hour
Cryptocurrency Market Data Analyst	Anywhere	537680	17–500 an hour

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